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ABSTRACT

Electronic mail is becoming more and more common in contemporary organizations. Despite the technological sophistication of e-mail, questions remain regarding the value of the innovation for organizations. The assumption that the presence of e-mail, in and of itself, obviates internal communication problems is inaccurate and problematic. This paper reports the findings of a study that assessed the use of e-mail in a classroom setting. Thirty-nine undergraduate students enrolled in an introductory organizational communication course were required to obtain a university e-mail account and had basic training in how to use the system. Students were required to use e-mail for one class assignment, and had the option to use it for submitting an assignment or for communicating with the instructor. The study assessed the frequency and nature of e-mail communication. Over 75% of messages received by the instructor were optional messages. While e-mail may be implemented to facilitate the transmission of task and maintenance messages, e-mail in this case encouraged human messages, spurred the upward network, and fueled the informal network. This investigation illustrates that e-mail can, under the right conditions, be effective, but it does not demonstrate that e-mail is the answer to communication problems in organizations. The quality of communication may be a function of the timeliness of feedback provided by the recipient. Without feedback, e-mail is likely to be less effective than it potentially could be. (SWC)

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EFFECTS OF E-MAIL AVAILABILITY ON THE INFORMAL NETWORK, AND DISSEMINATION OF UPWARD AND "HUMAN" MESSAGES

Abstract

Electronic Mail is becoming more and more common in contemporary organizations. Despite the technological sophistication of e-mail, questions remain regarding the value of the innovation for organizations. The assumption that the presence of electronic mail, in and of itself, obviates internal communication problems is clearly inaccurate and insidiously problematic. Researchers need to examine electronic mail in terms of what it can actually do to help employees manage information.

This paper reports the findings of a study that assessed the effects of e-mail availability on the activity of the informal network and the dissemination of upward and "Human" messages in a classroom setting.

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

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EFFECTS OF E-MAIL AVAILABILITY ON THE INFORMAL NETWORK, AND DISSEMINATION OF UPWARD AND "HUMAN" MESSAGES

Introduction

> "In the information age, all that matters is information and communication. Just remember this: Organization means communication, communication means connectivity, connectivity means knowledge. That's the mantra." (Management consultant Paul Strassmann in INC. March 1988.)

Mantra or otherwise, organizations must efficiently send and receive information in order to be viable. This fact is simply incontrovertible. One could argue that organizations require communication in the same way that humans require oxygen. The ingestion of less than pure air may not destroy a human, but it will negatively impact the quality of human life. Similarly poor internal communication may not destroy an organization, but it will force the organization to labor in a way that it otherwise would not have to.

Certainly, the efficiency of information management in organizations can have a significant effect on the "health" of that organization. It is therefore wise for employees within organizations to consider the values and drawbacks of any communication method available when sending and soliciting information.

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In the last decade innovative communication technologies like electronic mail have become more and more common in organizations. The perceived impact of communication technology on business is apparent to whomever picks up any popular business magazine. Fortune, for example, devoted nearly the entirety of its July 11, 1994 edition to the effects of electronic communication on businesses. Well over 275 articles have been written in academic journals on the subject and at least 476 separate articles have appeared in newspapers dealing with the issues of electronic communication in business.[1]

The emergence of new communication technologies has had an obvious impact on the way organizations manage information. At issue, of course, is the nature of that impact. That is, do the ostensible benefits of technological innovations result, in actuality, in improved information management?

New communication technology can be mesmerizing and truly incredible to those who matured without it, however, analysts must examine communication technologies not primarily in terms of how imaginatively information can be sent, but in terms of how, with all factors considered, the communication technology helps organizations manage information. For example, the speed of transmission should not be the lone nor primary criterion in evaluating the merit of communication technology. The essential question is, does the technology help the organization disseminate or

otherwise manage information? To assume that technology in and of itself is the panacea by virtue of its sophistication, potential, novelty, or any other superficial characteristic, is to guarantee additional ills that need to be cured.

The purpose of this paper is to report the results of a study that assessed the use of electronic mail in the classroom setting. Specifically, electronic mail was made available to students as a vehicle for communicating information and the study assessed the effect of that availability. The assumption was that the presence of electronic mail would energize the informal network and provide a channel for the expression of upward and human messages which otherwise might not be conveyed.

There are four sections to the paper.

I. a discussion of Organizational Communication terms and tenets applicable to the study.

II. an examination of electronic mail in terms of its values and inherent problems.

III. a description of the study

IV. a presentation and discussion of the results of the study.

I. APPLICABLE ORGANIZATIONAL COMMUNICATION TERMS AND TENETS

Typically information that is disseminated in organizations is categorized, by objective, into three areas. "Task" information refers to messages sent regarding specific job responsibilities. A Task message, for illustration, may inform employees of what they must do on a

certain day. "Maintenance" messages refer to communications regarding policies, rules, and procedures within an organization. The company handbook is typically a repository of many Maintenance messages.[2]

"Human" messages are those that convey information related to the human needs of the workforce. Communications of appreciation, for example, fall into this category. Information that is peripheral to the job itself, but related to employees' interests, fears, and feelings also fall into this category of human messages. "How is your child doing?" may seem like a bland inquiry, but genuinely sent and appreciatively received, this type of "human" message can be meaningful to both workers and the organizations that employ them. The late W. Charles Redding, whom some refer to as the pioneer of Organizational Communication, argued that it was the organizational communication climate, not the individual communication skills of employees, that most affected the overall communication efficiency of an organization. This climate is a function of many factors, but one such factor relates to an employee's sense that s/he is respected not only as a good worker, but as an individual with inherent human needs and desires. This reality should not compel managers to distribute candies, litter the newsletter with spurious appreciations, or otherwise stroke the workforce perfunctorily, but rather should compel managers to recognize that meaningful dissemination and solicitation of

"human" messages are part of overall information management.[3]

The Informal Network can carry Task, Maintenance, and/or Human messages. The informal network is a fast, resilient, and surprisingly accurate conduit of information. The label "informal" contrasts this network with the formal ones that are prescribed by the organization. As Keith Davis commented in his early (1953) Harvard Business Review piece, "Management Communication and the Grapevine," the formal network and the informal network complement one another. That is, one might react in a formal meeting to information received on the informal network. Similarly and more significantly as it relates to this paper, a formal network can create branches of the informal network and fuel the grapevine. If at a weekly interdepartmental meeting one becomes friendly with an executive from a distant unit who had previously been a stranger, this fledgling relationship created by the formal network, is likely to foster subsequent communications between the two new friends on the informal network.

The intelligent use and creation of informal networks can make managerial activity easier. Similarly the informal network can, if poorly managed or misunderstood, be frustrating and negatively impact organizational communication.[4]

One advantage of an effectively managed informal network is that it can yield important "upward" messages. Upward messages are defined as those travelling from subordinate to superior. They are valuable to top management for several reasons. Upward messages can

a) provide management with information that only subordinates are privy to.

b) bring intelligent suggestions to top management.

c) provide feedback for those messages sent downward by management.

d) can tap into the subordinates' expertise.

e) can improve morale giving employees the sense that their ideas and input are respected and required.

Of course, the intelligent solicitation of upward messages is crucial. Managers should not be deluged, harassed, or otherwise pestered with inconsequential messages. Similarly, if employees sense that the solicitation of upward messages is some ruse designed to create a false impression, the enterprise is worse than valueless. [5]

II. ELECTRONIC-MAIL: VALUES AND INHERENT PROBLEMS

Electronic mail may be the most revolutionary communication tool affecting business. It allows for an individual to send messages to a single individual, to

hundreds of individuals at once, and to people all across the globe. E-mail systems vary in sophistication and features, but they all can speed up the sending of information in a manner heretofore unimaginable. As Bill Raduchel, the chief information officer of Microsystems has commented: "E-mail is a major cultural event--it changes the way you run the organization."[6]

When we speak about e-mail, or any technology for that matter, we need to consider what Lee Sproull and Sara Kiesler refer to in their book Connections: New Ways of Working in the Networked Organization, as first and second degree effects of technology.

The first degree effects refer simply to what the technology, in this case the e-mail can do. The second degree effects refer to what happens to organizations because of e-mail. In order to accurately assess electronic mail one must, dispassionately, identify and evaluate these effects. What follows below are some of the advantages and disadvantages of e-mail that are applicable to this paper. As will become apparent, both the advantages and disadvantages are more related to second level effects than first level effects.

Reduction of Traditional Hierarchy--Hierarchies in organizations will still exist. However, e-mail has made it easier to communicate with individuals who previously may have been out of direct reach. Also e-mail impacts the

power of intermediaries at various tiers of the hierarchy. In a few moments a subordinate can compose a note to an executive and almost instantaneously that note will appear on the executive's screen. It is true that in the past the same subordinate could have written or phoned the executive, but the executive may have had mail screened by an assistant, or simply might not have responded to phone calls. E-mail has not eliminated screening (as some systems are designed with filters) but it has reduced hierarchical obstacles to communicating, and, inevitably, increased problems relating to the control of information-confidential and otherwise.

Increases in Horizontal Communication. A tremendous advantage of e-mail is that it breaks down the physical barriers that exist between individuals of different departments. This lateral communication is important since management theorists contend that organizations are implicitly interdependent.[7] Since electronic mail can make lateral communication easier, the technology has great potential benefits in this area.

E-Mail Litter. Just as one's mailbox can be flooded with irrelevant, annoying, and poorly written messages, one's e-mail folder can also get flooded with junk e-messages. The problems with such litter are twofold. One, junk mail is, by definition, not valuable and the existence of junk mail makes it difficult for employees to find relevant messages among the irrelevant ones. Secondly, the

senders of messages may assume, incorrectly, that messages have been received, when in fact they have just been sent and are hidden among the accrued e-mail litter.

Mark Rosenkar, the Vice President of Public Affairs for the Electronic Industries Association, made the following comment regarding e-mail and litter.

> "Let me put it this way. E-mail is an incredibly valuable service, but when you become inundated, it gets to be just like junk mail. I wonder if we are getting E-mail trashed. It's reaching the point where I'm spending an hour a day going through junk, or using a keyboard to respond to junk, or thinking about junk, or reading junk."[8]

Access Not everyone is hooked up to e-mail, or the same e-mail systems. In some organizations everyone is wired. In others, the "haves" are wired and the "have nots", are not. Obviously, if e-mail is perceived as beneficial, it can only be so beneficial to those who have access to the network. In the absence of total access, electronic mail can, ironically, at the same time as it breaks down barriers create new ones between those who have access and those who don't.

Effects of Technophobia It may be bewildering to those technologically adept, but many people still have an aversion to communication technologies. Some high ranking members of organizations do not use the Internet or e-mail. One CEO of a local Boston company states defiantly, "I don't do e-mail." The reality of technophobia means that organizations have potential receivers who will not receive the messages sent to them. Sources who do not acknowledge

this audience and consider that their broadcasted messages have been communicated, are making a fundamental error. The message that has been received is the only message that has been communicated. The message that has been sent hasn't necessarily been communicated at all.

The hazards of technology also include transmission errors which can be, at the least, embarrassing. With one stroke of the wrong key an employee can broadcast "personal" e-mail to the entire organization and mass communicate confidential information to the wrong parties.[9]

In short, electronic mail can, for better or worse, reduce traditional hierarchies, increase horizontal interaction, create new divisions in the workforce when all employees are not engaged, and facilitate the accumulation of message litter. Each of these characteristics were evident in the study that is presented in this paper. In addition, as the following will indicate electronic mail created an outlet for the growth of the informal network and the dissemination of upward and horizontal messages.

III. DESCRIPTION OF THE STUDY

Subjects and Context

Thirty nine undergraduate students enrolled in two separate sections of the same course: Organizational Communication. Twenty one students were enrolled in one

section and eighteen in the other. The sections each met for sixty five minutes and were scheduled to follow one another with a ten minute break between the two.

This course, Organizational Communication, is the introductory organizational communication course for our students. It is not a required course, but is taken by all students who wish to have an "OrgComm" concentration.

Most of the students in these classes were Communication Studies majors. A small percentage, approximately 10 per cent, were majors in other departments within the College of Arts and Sciences or other colleges in the University, specifically the College of Business or the College of Engineering.

Nearly all of the enrolling students in this course were unfamiliar with any principles of organizational communication. In fact, some had no idea even in general terms of what the phrase "organizational communication" meant, beyond what they discovered when and if they read the course description in the college catalogue.

Electronic Mail Access

On the first day of the course students were told by the instructor that they needed to obtain an e-mail "lynx" account. Lynx is an internal electronic mail system for the university. With a lynx account one can communicate with anyone else at the university who, similarly, has a lynx account. In addition, those with lynx accounts can access

the Internet and can, with some degree of difficulty, communicate with others in the University who are not hooked up with lynx, but with another electronic mail system.

Lynx accounts are extraordinarily easy to obtain. Members of the university community need only go to a central location, present a university ID card, and within minutes--less than three in most cases--the university member will receive a lynx account and password. Workshops are provided regularly for those who wish to become trained in using the lynx system.

In addition to the workshop training, very basic instruction was provided to each student in the course, (Organizational Communication) regarding how to send a simple message using the system. If students required it, individual instruction on how to use the system was provided during faculty office hours.

Most students who wished to use lynx had to either drive or walk to one of several campus locations, where banks of terminals are available. Four of the thirty nine students had access to terminals at home or at work and, therefore, could use the system with greater ease. Once students, who did not have home or office access, arrived at one of the university locations it was usually easy to find an available terminal at which they could sit and attempt to access the lynx system.

By far the biggest obstacle to lynx usage had to do with limited "log in" capacities. Students who arrived at a terminal would often be unable to log in. A message would appear on a screen indicating that due to heavy usage all access points were occupied. Any university member could easily spend forty-five minutes attempting to simply log in during high usage points during the day, usually between 11 A.M. and 4 P.M. This was extremely frustrating for even those who had easy access to terminals. It was particularly exasperating to recently initiated students who had to travel to the location, then wait for considerable lengths of time to get on a system, and then in all likelihood become frustrated in the way that endeavors with new technological equipment can.be frustrating.

Assignments

(1) "I Am Hooked Up"

There was only one required class assignment that specifically prescribed using electronic mail. Students were asked to send a message to the instructor informing him that they were "hooked up" and, apparently, capable of sending a message using the lynx system. Students were informed that they would be guaranteed a prompt e-mail response from the instructor upon receipt of their mailing.

(2) Other Assignments

In addition to the prescribed assignment students were encouraged to use e-mail for other class purposes. For one written assignment, for example, students had the option of "submitting" that assignment electronically.

For another class exercise students were encouraged to use e-mail to communicate with classmates enrolled in the other section of Organizational Communication. For this exercise, each class was divided into two groups, A and B. Students in Groups A and B in one section were coupled with students in Groups A and B in the other section. These pairings represented subgroups within the larger Groups A and B.

Groups A and B, in this exercise, were competitors. Each was trying to solve an organizational communication problem and each had to function and communicate as an organization might in order to solve the problem. The Groups were structured hierarchically with Coordinators, Administrative Assistants, and several departments. Each level of the hierarchy was composed of students from each section. Therefore, in order to function efficiently, the organizations (Group A and Group B) had to communicate with the "strangers" who were their counterparts in the other section. The "strangers" were encouraged to contact one another using e-mail. This exercise was called the "Davis

Paper" case. It is referred to by name here because in the examples of e-mailed messages that follow in section IV there are references to the Davis Paper case.

(3) Questions, Concerns, Comments

Finally, students were told that they could use e-mail as a vehicle for communicating with the instructor regarding questions, concerns, or any other messages they would like to convey to the instructor. They were assured that the instructor would check his messages at least once every two days and provide a prompt response to the students. Electronic mail was not used instead of office hours, after class discussions, phoning, or any other more traditional method of communicating. It was used as an additional method of sending information to the instructor.

IV. RESULTS OF THE STUDY

Frequency of Communications

During the course of the ten week quarter at least 176 messages were sent from students to the instructor. (It is "at least" 176 because some early messages were erased due to a technological error. There were more than 176, but 176 can, with certainty, be identified). In addition to these 176, two more "empty" messages were also sent. Empty messages are those that were addressed to the instructor, but upon accessing the "message" no information was found

therein. More than 75 per cent of all 176 messages were unsolicited. That is over 75 per cent of the messages received by the instructor were not messages sent in response to the initial prescribed assignment.

Some students, predictably, used the system more than others. The range extended from twenty two usages to one usage. Fifteen of the thirty nine students used the system only once. Eighteen or nearly fifty percent of the population used the system between two and nine times during the course of the quarter. Six or approximately fifteen per cent of the students contacted the instructor between ten and twenty two times during the quarter.

The numbers of contacts far surpassed the typical number of contacts when e-mail had not been a vehicle available to students. Despite the encouragement of office hour visits and other outside of class contact in the past, far fewer than fifty per cent of the students in a class visit or otherwise contact the instructor (outside of class) from two to nine times a quarter. Fifteen percent of the student population contacting the instructor between ten and twenty two times outside of class is most unusual.[10]

However, it is the nature of the communications, not the numbers that is most revealing. In general, e-mail appeared to provide students with an outlet for communicating information that previously had not typically been sent from student to instructor.

Nature of Communications

Clearly, the results of the study indicate that electronic mail did energize the informal network and impact the frequency, at least, of Human type messages.

Of the 176 messages 112 contained at least some element that could be categorized as a Human message. Many of the messages combined Task or Maintenance information with a Human message. Some messages were purely Human in the sense that they had very little to do with course content and much more to do with peripheral activities and personal issues.

Descriptions and examples of these messages follow. They have been categorized in terms of (a) the solicited messages to the one prescribed assignment (b) unsolicited messages that combined Task, Maintenance messages with other Human messages and (c) unsolicited messages that had little if anything to do with course assignments.

(a) Responses to the Prescribed Assignment

These solicited messages varied widely. A number of students simply wrote, "Hi" or "Hi, This is in response to the assignment to contact you." Many others extended the message with various types of messages that had not been solicited. Often these messages included complaints regarding the difficulty of accessing the system. These complaints occasionally served as segues for the

presentation of unsolicited information. For example:

(I have done minor editing with these and have used initials when names are mentioned. Ellipses indicate that the message continues. They were not provided by the student).

> (1) This is my required homework. I thought I would give you a little background on myself. Since it took me a half hour to log on, I might as well spend the extra five minutes to make the message a little interesting. My name is TR. I am a sophomore and I row varsity Crew. I have not yet picked a major, but it is now between Marketing and Journalism. I am six four two hundred pounds... I am from Southboro MA, but my parents now live in Secerna Park MD. My father is an executive with NCC corporation, a distributor that was recently bought, and my mother is east coast education director of Seaquent Computer Company.
>
> (2) This is a nightmare. It's a good thing there's a lot of friendly people willing to help you, here in the computer lab. So far I think your class is interesting. I just hope you get this lynx assignment before class so I won't get a failure for this assignment. Well, okay, see you in class. P.S. It wasn't so hard.
>
> (3) Hi! How are you? I'm fine. I just wanted to introduce myself. My name is AA and I just transferred here last quarter. I play soccer and at this time I'm pledging Sigma Delta Tau. I'm looking forward to your class.
>
> (4) Professor Zaremba. It took me a half an hour just to get into the system and send you this message. I usually do not spend that much on any homework assignment except for readings and papers. The class seems like it is going to be interesting. See you Thursday.

(5) [from a student who had difficulty learning the system] Hi. How are you? Thanks for working with me!!!!

(6) It took me a while to learn how to use lynx, but I finally did it. I apologize for having written to you so late, hopefully you will receive this message before class. The way this communication system works is very interesting. Looking forward to seeing you in class.

(7) I really think that I have figured out how to use the system--I guess that it is about time. Thanks for your help.

(b) Messages that combined Task, Maintenance with Human Messages

These messages were unsolicited. That is, there were no assignments that prescribed e-mail communications to relay the information. Often these messages contained questions about assignments or comments about class activities. Often segues were used to bridge some activity related to class with an activity that was completely unrelated. For example:

(8) I was wondering what were some of the things that you are looking for in the separate self-evaluation? What length are you looking for?...I keep meaning to tell you that I will be in your Group Discussion class in the Fall of 1994. I am looking forward a lot to that class. Do you have any special plans for the summer? Do you still have to teach? I will be traveling throughout Europe for about five weeks. I have already been to the former Soviet Union, Finland, and Australia. Two places that I would like to visit sometime is Hong Kong preferably before 1997. This is because that is when England will hand Hong

Kong back over to China and it would still be neat to see it if it stays the same. It will be very interesting to watch. Hong Kong is the most capitalistic economy in the world. The other place that I would like to visit is Japan. Well, now that I have just shared with you my desire to travel I would like to hear about any adventures that you have had, even if they are right here in New England.

(9) I seem to have lost my syllabus and was hoping that you could get me a copy on Monday.---Do not forget to come and watch us against Harvard next weekend. You are going to have to get up early, because as the saying goes oarsmen get more done before ten than most people do all day. Our race is at eight AM on Saturday the 30th...

(10) I just wanted to remind you to bring a copy of the syllabus to class today... Also I wanted to tell you how we did this weekend. We lost to Yale and beat Rutgers. We are a little slower this year than in past years.

(11) Just a quick note to let you know that I have returned from my trip to Colorado. I have learned that we are having a quiz today covering [x, y]. I'm a little concerned because I do not have these notes, and am wondering what I should do...Regarding the puzzle, have you had any luck trying to figure it out yet? If you have any more questions, you certainly know how to get a hold of me. See you in class.

(12) I apologize for the tardiness of my Davis Paper final assignment, but I could not contact you through e-mail last evening due to heavy usage...It seemed that everyone and their sisters were on the system last night...I still have reservations about this e-mail system because it's slow as molasses, you can't get immediate feedback, and most of all it's not always accessible due to time constraints to many users, and limited facilities...I would like to apologize for my tardiness in class on Tuesday, I did not mean any disrespect and will be more conscious of the time in the future.

(13) Hi! How are you today? Just to let you know I enjoyed yesterday's class and found it interesting to discuss the Davis paper case. I liked how we were divided into groups and were able to hear other students' opinion about the Davis Paper case. This was an effective way of communicating with others. Hope to hear from you soon! I'll see you tomorrow.

(14) If I do not have one of the nicest Newsletters and brochures you have seen to date then I will be very surprised. I just met with the people from the other class who are sharing the responsibility of the brochure with me, and we are meeting tomorrow to finalize the design....

(c) Unsolicited messages unrelated to class assignments.

Many of the 176 messages were purely "Human." One student, upon hearing me in class mention an interest in puzzles, engaged me via e-mail to solve one. There were several puzzle related communications. Another student wrote cryptic phrases in a fashion mocking spies using code terms to avoid detection. One wrote frequently about his performance in crew events. Another commented on his disability and problems related to it. Some of the messages in this category were simply of the "Have a Nice weekend" variety. None were solicited. Some may have come in response to an interest the instructor had indicated either in electronic mailings or otherwise. However, students were not directed to use e-mail or any other channel to express

these types of sentiments. Examples:

(15) Thank you for the message you left for me on Friday 5/9. I am worried about being a burden to people. I realize that I need extra help now that I have a head injury, but I have a really hard time asking for the help I need. I figure that since others are not getting the same kind of help, I am getting special attention. I feel incredibly guilty about getting special attention. I realize it's not your job to be concerned with my personal problems. I have absolutely NO EXPECTATION of your involving yourself with my problems. I certainly welcome your assistance, but I definitely do not expect it. And I mean that. I really thank you for taking an interest in me. I hope to continue joking and everything with you. I am just very sensitive to others' opinions of me. So please accept my thanks.

(16) Hope you have a nice weekend. I will be in to see you sometime next week. Most likely around Tuesday or Wednesday. See you then.

(17) My boat won, but the varsity 1-boat lost and that means that Harvard is still better than we. Thank you very much for coming to my race, it means a lot. I will show you what I won on Monday.

(18) Did you get to see my boat defeat the defending champions?

(19) If you are interested there is an all you can eat pancake breakfast at the boat house this Saturday morning. We will also be dedicating some new boats if you are interested in stopping by...

(20) You are correct Dr. Zaremba, but when Mars is warm does it affect the mating of whales?

(21) Hi once again professor Zaremba. I started reading Vonnegut's Player Piano. To be honest it's alright so far, but I guess it's a little bit gloomy. I just finished a

real interesting and fascinating book during Spring vacation. It was Michael Crichton's new book, Disclosure. It deals with a rather interesting topic of reverse sexual harassment. I thought you may find the book interesting.

(22) It's hard to believe that people have a hard time using this e-mail system...My group contact mailed me a letter that should have gone to someone else. It's funny, my hardest thing to remember is how to type and spell. I will see you in your office this afternoon, but before I sign off I have a puzzle for you. I don't know if you have ever done one of these but I will give you a story and you have to find out what happened by asking only Yes or No questions. A naked man was found dead in the middle of a field, holding a match. There were no tracks made...

Summary

The results of this study indicate that while e-mail may be implemented to facilitate the transmission of Task and Maintenance messages, the presence of the electronic mail in this case encouraged Human messages, spurred the upward network, and fueled the informal network.

The issue of the inherent value of e-mail, however, is not that easy to assess. Some may consider the nature of the messages generated to be superfluous and a waste of "company" time. I do not, in this context. The Human messages generated were not irrelevant, for they did indeed help to provide a climate that made work within the classroom organization more effective and productive,

regardless of how peripheral the messages were to the essence of the course.

However, it isn't inconceivable that e-mail could be used as a diversion from work as much as a complementary vehicle for valuable communication. In short, while this investigation illustrates that electronic mail can, under the right conditions, be effective, it does not demonstrate that electronic mail is, independently, the answer to communication problems in organizations, upward, informal or otherwise. That is, the technology is not the essential variable. The pedigree of the managers and employees may be. For example, it is important to point out that I responded promptly to each message mailed to me by the students. This feedback, of course, is necessary for the health of upward networks. In the absence of such feedback, electronic mail or any other vehicle for communication is likely to be less effective than it potentially could be.

The information superhighway is certainly needed, and the roadwork for it will soon be completed, but thinking of the information highway as ensuring quality communication is like thinking of the interstate system as ensuring quality transportation. It can be wonderful, but the quality of communication/transportation is still a function of the highway engineers, maintenance of the roads, idiosyncrasies of the drivers, and responsibilities of those who plan the trips.

References and Notes

1 These figures are very conservative. They surface from examining data bases using "electronic mail" as the descriptor. Including "electronic meeting" in the mix, or "e-mail" would exponentially increase the figures. Also, some data bases will not include articles about electronic mail in their listings unless those precise terms are found in the titles to the articles. Therefore, these figures are truly conservative.

2 There are various texts that use the Task and Maintenance labels when referring to these messages. In Gerald Goldhaber's Organizational Communication he credits W. Charles Redding for creating these labels. Organizational Communication Third Edition; DuBuque, Iowa: Wm C. Brown 1983, page 21.

3 In Communication Within the Organization Redding writes, "The climate of the organization is more crucial than communication skills or techniques (taken by themselves) in creating an effective organization. Redding, W.C. Communication Within the Organization. New York: Industrial Communication Council, 1972.
In Gary Kreps' book, Organizational Communication, there is a summary of the research done relating communication climate to organizational efficiency. Kreps, Gary. Organizational Communication. New York: Longman, 1986, pages 228-231.

4 Davis writes in the 1953 article, "Whether the grapevine is considered an asset or a liability, it is important for executives to understand it. For one thing is sure: although no executive can absolutely control the grapevine he can influence it. And since it is here to stay he should learn to live with it." Davis, Keith. "Management Communication and the Grapevine," Harvard Business Review 31 (September-October 1953): page 43.

5 Goldhaber reviews the research on the values of upward communication in his book, Organizational Communication, pages 158-159. (See Note 2 above). Some readers may be interested in Phillip Thompkins new book Organizational Communication Imperatives. In this book, Thompkins (a student of Redding's as was Goldhaber) analyzes the Space Shuttle Challenger disaster in terms of organizational communication. Thompkins argues that poor upward communication was in part responsible for the tragedy. Further, Thompkins argues that the upward communication problems were a function in large part of a defensive communication climate that had evolved at the Space Center. Thompkins, Phillip. Organizational Communication Imperatives. Los Angeles: Roxbury Publishing Company, 1993.

6 "Managing in a Wired Company," Fortune July 11, 1994, page 44.

7 In their book, The Social Psychology of Organizations, authors Daniel Katz and Robert Kahn wrote: "Organizations face one of their most difficult problems in procedures and practices concerning lateral communication." Katz and Kahn. The Social Psychology of Organizations. New York: John Wiley and Sons, 1976, page 444.

8 "Surviving Information Overload," Fortune July 11, 1994 page 60.

9 A consultant for the United States Air Force relays the story of how an officer sent an electronic missive to a friend disparaging President Clinton's foreign policy. The friend thought the message was witty and on target so he sent it along to another friend. Unfortunately, the initial receiver depressed the wrong key and sent the pejorative comments about the Commander and Chief to everyone in the United States Air Force who was hooked up to the system. The original source was flooded with angry messages condemning him for making such comments about the President.

10 I do not have the numbers to compare precisely with non e-mail contacts in the past. When I write that the numbers of contacts with e-mail far exceeded those from quarters when e-mail was not available I am relying on recollections. Still I can write unequivocably that the e-mail contacts far surpass those when e-mail was not available.